

Atty. Docket No. 388.0002
Amendment Dated May 23, 2005
Reply to Office action of February 23, 2005
Appl. No. 10/758,194

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A conveyor system for moving solid objects from a first height to a second height, comprising:
 - (a) an inlet at a first select position and disposed at said first height;
 - (b) an outlet at a second select position which is different from the first select position and disposed at said second height;
 - (c) a generally curvilinear transportation path disposed between said first select position and said second select position and in conveying communication from proximate the inlet to proximate the outlet where said curvilinear path is defined by a first generally laterally disposed segment, a second arcuate segment including a vertical component extending between said first and second heights, and a third generally laterally disposed segment substantially parallel to and spaced from said first segment;
 - (d) an first endless conveying element to transport ~~at least one~~ said solid objects having a contact surface defining a portion of said curvilinear transportation path;
 - (e) a main cylindrical guide element of relatively dimensionally larger than one of said objects an having a diameter generally corresponding to a simple fraction of the difference between the first and second heights including a generally arcuate

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perimetric surface dimensioned for minimizing bending force delineating a portion of
said second arcuate segment of said curvilinear transportation path; and

(f) a second endless conveying securing element that positions at least one and
retains at least one of said objects on the contact surface along said second arcuate
segment of said the curvilinear transportation path;

where said first and second conveying elements overlap along said second
segment and are driven by said cylindrical guide element and where said at least
one object is inverted as a result of travel between said first and third segments.

2. (Currently Amended) The conveyor system of claim 1, wherein said secured
portion second segment of the transportation path includes a has a vertically
directed component corresponding to the diameter of said cylindrical guide element
and 1/x of the a difference between the first and second heights where x=1, 2 or 3.

3. (Canceled)

4. (Canceled)

5. (Currently Amended) The conveyor system of claim 4-1, where said inlet and
said outlet are separated by a select vertical distance, and said inlet facing a first
direction and said outlet facing a second, opposite direction, and where said
curvilinear transportation path is serpentine, said conveyor system further

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comprising a second main cylindrical guide element for directing the first and second endless conveying elements along said serpentine transportation path.

6. (Currently Amended) The conveyor system of claim 5, wherein said first and said second main guide elements are separated by a select distance, wherein said main guide elements ~~are generally cylindrical with~~ have substantially equivalent diameters, and wherein said vertical distance separating said inlet and outlet substantially corresponds to the sum of diameters of the first and second main cylindrical guide elements and the distance of separation between the first and second main guide elements.

7. (Currently Amended) The conveyor system of claim 6, wherein the first main guide element and second main guide element cooperate to maintain contact with between the first and second endless conveying elements through at least part of ~~said first and third lateral segments and to position said at least one object between the securing and said contact surfaces.~~

8. (Canceled)

9. (Canceled)

10. (Currently Amended) The conveyor system of claim 6, wherein the diameter of the main guide element is a roller is sufficiently large relative to at least one of said

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objects and approximately half said select vertical distance and provides a low to minimize bending force to on said at least one object by being configured to be sufficiently large relative to the at least one object to avoid damaging the object.

11. (Currently Amended) The conveyor system of claim 4 5, further comprising a drive mechanism for driving the first and second endless conveying cylindrical guide elements.

12. (Currently Amended) The conveyor system of claim 11, wherein the drive mechanism is configured to drive the second endless conveying element cylindrical main guide element at approximately the same speed as the first endless conveying element.

13. (Cancelled)

14. (Currently Amended) The conveyor system of claim 1, wherein the first and second endless conveying elements and said securing element are elastic and sterilizable and formed from a material selected from the group consisting of belts, webs and cables.

15. (Currently Amended) A conveyor system comprising:
(a) an inlet;
(b) an outlet;

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(c) a first endless conveying element having a sterilizable, unitary contact surface in contact with a guide cylinder defining a part of a transportation path and being driven thereby, said first conveying element and configured to transport at least one object along a transportation path from proximate the inlet, through an intermediate arcuate path with a vertical component, to proximate the outlet; and

(d) a second endless conveying element having a sterilizable, unitary securing surface positioned adjacent the contact surface and along a secured portion of the transportation path extending at least through said intermediate arcuate path so that the at least one object is secured between the first and second conveying elements, along the secured portion of the transportation path.

16. (Currently Amended) The conveyor system of claim 1 15, wherein said secured portion includes a substantially vertical portion.

17. (Original) The conveyor system of claim 15, further comprising a tensioner for maintaining tension in the first conveying element.

18. (Currently Amended) The method of using a conveyor system of claim 1 comprising the steps of conveying the at least one article object between said inlet and said outlet.

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19. (Currently Amended) The method of using a conveyor system of claim 15 comprising the steps of conveying the at least one article object between said inlet and said outlet.

20. (Currently Amended) A conveyor for food products, comprising:

- a) means for receiving at least one food product in a select orientation, said receiving means being located at a first select height;
- b) means for dispensing said at least one food product in said select orientation said dispensing means being located at a second select height that is different from said first select height;
- c) means for establishing a curvilinear transport path between said receiving means and said dispensing means;
- d) means for conveying said at least one food product maintaining said select orientation between said means for receiving and said means for dispensing; and
- e) means for securing said at least one food product at least in respect to said curvilinear transport path, said means for securing overlapping said means for conveying along the curvilinear transport path and being driven by said means for establishing a curvilinear transport path.

21. (Newly Presented) A conveyor system for conveying solid objects of limited structural strength generally having a substantially uniform size, from a first height to a second height comprising:

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a cylindrical roller of a select diameter generally corresponding to a whole number fraction of the difference between the first and the second heights and having substantially greater than the size of the solid objects, said roller defining a generally continuous and smooth arcuate annular surface having a select curvature;

a first endless conveyor element disposed between an inlet and an outlet and traveling over a path including a generally semicircular portion of said annular surface where said first endless conveyor element is driven by said roller; and

a second endless conveyor element dimensioned to overlie said first endless conveyor at least substantially along said generally semicircular portion, said second endless conveyor element being driven with said first endless conveyor, where said second conveyor positionally secures and positionally stabilizes the at least a select one of said solid objects disposed between said first endless conveyor at said overlying second endless conveyor;

22. (New) The conveyor system of claim 21 where the solid objects are food products, the cylindrical rollers are composed of sterilizable plastic and the conveyors are formed from a material selected from the group consisting of belts, webs, and cables.

23. (New) The conveyor system of claim 22 where the food products are patties of ground meat and further including a second cylindrical roller

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disposed proximate to and above the cylinder roller where said first and second conveyor elements establish a serpentine pathway between said inlet and output.

24. (New) The conveyor system of claim 21 where said at least one of said solid objects is inverted between said inlet and outlet.